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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 09/870,144 | 05/30/2001 | Eva Sevick-Muraca | 017575.0680 | 9131 |
| 5073 | 7590 | 10/19/2005 | | |
| BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980 | | | EXAMINER JUNG, WILLIAM C | |
| | | | ART UNIT 3737 | PAPER NUMBER |

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|----------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/870,144 | SEVICK-MURACA ET AL. |
| | Examiner | Art Unit |
| | William Jung | 3737 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 August 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-34 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed August 4, 2005 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with the applicant's assertion after further consideration of the response. More specifically, the applicant's argument that the Nelson et al reference does not fully disclose all claimed features is based on lack of introducing contrast agent into a biological tissue and the type of contrast agent being used, more specifically being fluorescent contrast agent. Examiner would like to point out that Nelson et al clearly establish that the contrast agent may be introduced into the obscuring medium (target tissue or materials that one would normally would not be able to distinguish) prior to the data (image) acquisition (col. 12, lines 47-49). In addition, Nelson et al's contrast agent may be radioisotope, which is a fluorescent agent (col. 12, lines 34-39). Therefore, examiner maintains the rejection from the previous office action mailed on May 4, 2005 and repeated below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al (US 6,216,540 B1).

Nelson et al anticipate all claimed features in claims 1-34.

Claims 1-7, 11-15, 17, 18, 21-27, 30, 31, and 34: Nelson et al discloses a method comprising introducing an exogenous fluorescent contrast agent into a biological tissue where the tissue has scattering light characteristic with a mean time-of-flight. The tissue with the contrast agent is then exposed to excitation light such as laser with varying intensity causes fluorescence from the contrast agent. The fluorescence is detected to map out the tissue characteristics in accordance with light scattering behavior of the tissue as well as the contrast agent. The selection of the contrast agent is dependent upon the radiation absorption properties to provide image contrast (col. 19, lines 22-53; col. 24, line 56 – col. 25, line 43; col. 26, lines 5-32). The degree of fluorescence and its lifetime characteristics is dependent on the absorption characteristics of the contrast agent and specificity of the tissue or organs targeted. Therefore, the lifetime factor of the fluorescence is a design choice limited by the radiation absorption and how fast the body circulates the materials out the physiological system. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to vary the fluorescence lifetime to the specificity of the contrast application with varying degree of radiation absorption due to tissue characteristics as well as radiation intensity variation with the teachings of Nelson et al to achieve the claimed invention.

Claims 8-10, 16, 32, and 33: Nelson et al discloses that the tissue characteristic mapping of fluorescence scatter can be achieved by amplitude or energy modulation, frequency and phase shift analysis (col. 4, lines 19-39).

Claims 19, 20, 28, and 29: As discussed above, the absorption properties of the contrast agent in tissue are analogous to diffusion of the contrast agent into tissue, therefore, Nelson et al's disclosure inherently includes to the limitation of diffusion of the contrast agent in tissue.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung, Ph.D. whose telephone number is 571-272-4739. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WLJ
October 13, 2005

Brian L. Casler
BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700